

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number _____ Page _____

SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 89001096

Date Listed: 8/22/89

Seven-Foot Knoll Lighthouse
Property Name

Baltimore
County

MD
State

Multiple Name

This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.

for Patrick Andrew
Signature of the Keeper

8/22/89
Date of Action

=====

Amended Items in Nomination:

There is an inconsistency in Section 3 of the form. The property nominated is a structure, but 1 contributing building is checked on the form. This should be changed to 1 contributing structure. Ron Andrews with the MD SHPO agrees. The form is now officially amended to list 1 contributing structure.

DISTRIBUTION:

- National Register property file
- Nominating Authority (without nomination attachment)

United States Department of the Interior
National Park Service

National Register of Historic Places
Registration Form

JUL 14 1989

NATIONAL
REGISTER

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries.

1. Name of Property

historic name Seven-Foot Knoll Lighthouse
other names/site number B-4222

2. Location

street & number Pier 5, Inner Harbor not for publication
city, town Baltimore vicinity
state Maryland code MD county independent city code 510 zip code 21202

3. Classification

Ownership of Property	Category of Property	Number of Resources within Property	
<input type="checkbox"/> private	<input type="checkbox"/> building(s)	Contributing	Noncontributing
<input checked="" type="checkbox"/> public-local	<input type="checkbox"/> district	<u>1</u>	<u>0</u> buildings
<input type="checkbox"/> public-State	<input type="checkbox"/> site	<u>0</u>	<u>0</u> sites
<input type="checkbox"/> public-Federal	<input checked="" type="checkbox"/> structure	<u>0</u>	<u>0</u> structures
	<input type="checkbox"/> object	<u>0</u>	<u>0</u> objects
		<u>1</u>	<u>0</u> Total

Name of related multiple property listing:
N/A

Number of contributing resources previously listed in the National Register 0

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property meets does not meet the National Register criteria. See continuation sheet.

Mark R. Edwards for J. Rodney Little 7/13/89
Signature of certifying official Date
STATE HISTORIC PRESERVATION OFFICER
State or Federal agency and bureau

In my opinion, the property meets does not meet the National Register criteria. See continuation sheet.

Signature of commenting or other official Date

State or Federal agency and bureau

5. National Park Service Certification

I, hereby, certify that this property is:

entered in the National Register. Patrick Andrews 8/22/89
 See continuation sheet. _____
 determined eligible for the National Register. See continuation sheet. _____
 determined not eligible for the National Register. _____
 removed from the National Register. _____
 other, (explain:) _____

for Signature of the Keeper Date of Action

6. Function or Use

B-4222

Historic Functions (enter categories instructions)
TRANSPORTATION/water-related

Current Function (enter categories from instructions)
RECREATION AND CULTURE/museum

7. Description

Architectural Classification
(enter categories from instructions)

Materials (enter categories from instructions)

No style

foundation iron

walls iron

roof iron

other wood

Describe present and historic physical appearance.

DESCRIPTION SUMMARY:

The Seven-Foot Knoll Lighthouse is a wrought-iron house on a base of cast-iron columns, braced by wrought-iron tension members. The original house was described as being square of cast-iron panels, but the present one, built about the last quarter of the nineteenth century, is round, of rolled-iron plates drilled and riveted together. The present house has two stories, plus a lantern which houses the light. The first floor is 51 feet in diameter, including a five-foot exterior platform around the entire circumference, making the internal living space 40 feet in diameter. The second story is 15 feet in diameter, and the light chamber itself is 6 feet across.

See continuation sheet for
GENERAL DESCRIPTION

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Section number 7 Page 1GENERAL DESCRIPTION:

The Seven-Foot Knoll Lighthouse is a round wrought-iron two story structure supported on cast iron columns. It was originally located in the State of Maryland on the Chesapeake Bay on a rocky shoal at the mouth of the Patapsco River, marking the channel to the harbor at Baltimore. It now stands on pier 5 of Baltimore's inner harbor where it is being restored as a museum.

The Seven-Foot Knoll Lighthouse is a wrought-iron house on a base of cast-iron columns, braced by wrought-iron tension members. The original house was described as being square of cast-iron panels, but the present one is round, of rolled-iron plates drilled and riveted together. The present house has two stories, plus a lantern which houses the light. The first floor is 51 feet in diameter, including a five-foot exterior platform around the entire circumference, making the internal living space 40 feet in diameter. The second story is 15 feet in diameter, and the light chamber itself is 6 feet across.

The house is supported on nine cast-iron screw piles, one in the center and eight arranged radially 20 feet from it. The radial piles are connected around the circumference by 4-inch square bar girders. The girders are connected at the piles by cast caps with pin connections for both the girders and the wrought-iron-tension members that provide cross bracing. The caps also have bolt-through flanges to support the vertical columns which support the house. The columns have similar caps with connections for the girders that support the house. The girders around the circumference are an unusual fish-belly design, characteristic of early cast girders, rather than rolled sections. Another set of girders run radially to the center hub to support the iron plates of the floor system. A small wooden platform is suspended from them on wrought-iron hangers.

The present house is made of rolled-iron plate much in the manner of riveted iron-hull construction. Three horizontal bands of 3' x 6' plates form the exterior wall with a narrow soffit band forming the connection with the plates which form the shallow cone of the roof. As in ship construction, the pattern of plates, including the cuts for doors and windows was carefully laid out in advance and the cuts made in a shop with large fabricating machinery. Since the strength demands did not approach those of a ship at sea, there was no need to overlap the plates. Instead, plates are butted and riveted to a six-inch strip on the exterior surface. The roof plates terminate in a gutter which forms the

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catchment system for the lighthouse water supply held in large interior water tanks.

The second story of the house is much smaller than that on the original, being only 15 feet in diameter. It housed the oil tanks and a self-feeding mechanism for the light above. It is pierced by two openings with 2-over-2-double-hung sash.

The interior of the 1st floor is divided into spaces which functioned as living quarters for the keeper - a kitchen, a living room and two bedrooms. The interior partitions are of pine match-boarding and some are covered with later hardboard. Flooring is tongue-and-groove laid on the iron plate. Windows are double-hung sash in a variety of sizes showing the changes as large lights replaced the earlier multipaned sash. Interior doors are of a four-paneled late 19th-century type.

The light chamber is accessed with a ladder from the second story. It is six feet in diameter and seven in height. Glass plate windows enclose the upper portion of the lantern. These are in the form of alternating truncated triangles held by iron mullions. A small finial sits atop the lantern roof and two metal stovepipes flank it.

8. Statement of Significance

B-4222

Certifying official has considered the significance of this property in relation to other properties:

nationally statewide locally

Applicable National Register Criteria A B C D

Criteria Considerations (Exceptions) A B C D E F G

Areas of Significance (enter categories from instructions)

Period of Significance

Significant Dates

Architecture

c. 1875

c. 1875

Cultural Affiliation

N/A

Significant Person

N/A

Architect/Builder

unknown

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

SIGNIFICANCE SUMMARY:

The Seven-Foot Knoll Lighthouse, now located on Pier 5 in Baltimore's Inner Harbor is an important historic maritime resource in Maryland. Built at the outer entrance to the harbor as part of a Federal effort to rationalize the nation's system of navigational aids, the Seven-Foot Knoll Lighthouse is one of approximately eighteen screwpile lighthouses erected in Maryland in the Chesapeake Bay in the second half of the nineteenth century. The screwpile lighthouse is based upon the principal of a fixed structural support system of piles driven into the river bottom. The lighthouse itself was generally round, square, or hexagonal in shape and usually consisted of four rooms and closets on the first floor with the light and fog bell machinery on the second story. Once a common type of lighthouse on the bay, only four screwpile lighthouses remain in Maryland today. All four were built about the 1870s though the structural support system for the Seven-Foot Knoll Lighthouse is believed to date from 1856. Three of the remaining screwpiles have hexagonally shaped houses of wood construction. The Seven-Foot Knoll Lighthouse is unique in that it is round with the house constructed of metal. The first screwpile lighthouse constructed in the state was the Seven-Foot Knoll erected in 1856. It had a wooden square-shaped house. The Seven-Foot Knoll Lighthouse was moved to its present site in 1988 to avoid demolition when the structure was replaced by a new light structure.

See continuation sheet for HISTORIC CONTEXT and MARYLAND COMPREHENSIVE HISTORIC PRESERVATION PLAN data.

9. Major Bibliographical References

B-4222

Maryland Inventory of Historic Properties, Maryland Historical Trust, Annapolis, MD.

Caise, Robert, Keepers of the Lights: A History of American Lighthouses.
New York: Charles Scribner's Sons, 1968.

Washington, D.C., National Archives and Record Service. Record Group 026
U. S. Coast Guard.

City Directory, 1853-1854. Baltimore, 1853.

de Gast, Robert, The Lighthouses of the Chesapeake. Baltimore: Johns Hopkins
University Press, 1973, p. 91.

See continuation sheet

Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67) has been requested
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey # _____
- recorded by Historic American Engineering Record # _____

Primary location of additional data:

- State historic preservation office
- Other State agency
- Federal agency
- Local government
- University
- Other

Specify repository:

Baltimore Museum of Industry

10. Geographical Data

Acreage of property less than one acre
Baltimore East, MD quad.

UTM References

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Zone Easting Northing

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Zone Easting Northing

C

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See continuation sheet

Verbal Boundary Description

The boundaries are coterminus with the outer circumference of the structure which is 51' in diameter at its widest point.

See continuation sheet

Boundary Justification

The resource no longer has integrity of location and setting and the present pier location and setting do not replicate the original water location and setting.

See continuation sheet

11. Form Prepared By

name/title <u>Dennis Zembala, Executive Director</u>	date <u>June 1989</u>
organization <u>Baltimore Museum of Industry</u>	telephone <u>301-727-4808</u>
street & number <u>1415 Key Highway</u>	state <u>Maryland</u> zip code <u>21230</u>
city or town <u>Baltimore</u>	

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HISTORIC CONTEXT:

MARYLAND COMPREHENSIVE HISTORIC PRESERVATION PLAN DATA

Geographic Organization: Piedmont

Chronological/Developmental Period(s):

Agricultural/Industrial Transition	A.D. 1815-1870
Industrial/Urban Dominance	A.D. 1870-1930
Modern Period	A.D. 1930-present

Prehistoric/Historic Period Theme(s):

Architecture, Landscape Architecture, Community Planning
Economic
Transportation

Resource Type:

Category: structure
Historic Environment: water
Historic Function(s) and Use(s):
TRANSPORTATION/water related

Known Design Source: none

See Continuation Sheet No. 8.2

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Section number 8 Page 2HISTORICAL CONTEXT:

The Seven-Foot Knoll Lighthouse which marked the outer entrance to Baltimore's harbor, was built in 1856 as part of a Federal effort to rationalize the nation's system of navigational aids. In 1851 the government commissioned a study of such sites and began a program to build lighthouses and to devise charts and tables to make them more useful to mariners. Prior to this survey, it was difficult for navigators to distinguish from among the many lights on the coast, and navigation in bad weather remained a difficult and dangerous task. In the Chesapeake Bay, maritime traffic had become more frequent as ships increased in both number and size after the War of 1812. As early as 1819, Congress had authorized lighthouses at Bodkin Point and Sparrows Point at the entrance to Baltimore Harbor. After 1830, both the National Road and the Baltimore and Ohio Railroad enhanced Baltimore's importance as an entrepot for goods and immigrants headed to the frontier. Fulton's steamboat and the international growth of both shipbuilding technology and maritime commerce made it obvious that the old system of locally placed and maintained navigational aids was becoming obsolete by 1840. The study by the Lighthouse Service in 1851 expressed a felt need in the maritime community. To add to its authority, it drew upon a French system already in place using the new Fresnel articulated lenses and government charts locating the new designated stations. Planning for a new series of lighthouses had already been going on for some time, and it was already determined that several would be in the Chesapeake Bay.

The creation of the first lighthouse at Seven-Foot Knoll began in 1850 when Congress appropriated \$10,000 for a structure in the channel to replace the light on the mainland at Bodkin Point. By October of the next year, plans, designs and specifications were complete for what was to be a very unique screwpile lighthouse. The screwpile-type structure was itself the latest in lighthouse technology, eliminating the need for underwater caissons and heavy masonry foundations. The first had been erected on Brandywine shoal in Delaware, and, after an initial proposal to build a 60-foot brick tower, the Lighthouse Board decided to build another screwpile design instead. The screwpile design took advantage of the emerging technology of cast-iron structures - very appropriate for Baltimore which was becoming a major center of cast-iron building. Hollow cast-iron piles with external threads were screwed into the river bottom into bedrock or some solid strata. These were then filled with concrete and capped to form a foundation on which to erect the house. Because all piles did not enter the bottom to the same

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depth, it was necessary to cast intermediate extensions of different lengths to create a uniform level for the superstructure nine feet above mean high water.

The Seven-Foot Knoll house was further unique in that the house itself was also of cast-iron, probably the only one ever built. The original walls on the first floor consisted of 1" thick cast-iron panels 12 feet high by 3 feet, 6 inches wide. The second floor panels were 9 inches. All were cast with brackets to be bolted together just like the front of a cast-iron building. Cast-iron construction was the world's first prefabricated industrial building technology and had obvious advantages for difficult site locations like a lighthouse.

The firm of Murray and Hazelhurst in Baltimore was engaged to build the first Seven-Foot Knoll. The company was not a construction firm, rather, they listed themselves as "ironfounders" in the City Directory and were one of a growing number of firms in the city that specialized in iron castings and machine building. Located on the waterfront at the corner of William and Hughes streets, Murray and Hazelhurst were suppliers to the shipyards as well, making them ideally suited to the task at hand.

The present structure at Seven-Foot Knoll is a successor to the original cast-iron lighthouse, although much of the substructure is probably original. The current house is composed of panels or plates of wrought iron riveted together into a self-supporting shell. Just when it replaced the cast-iron house has not been determined, but the technology is characteristic of the post Civil War period of circa 1875, as seen in bridges and also in ship-building. The interior wood paneling is also typical of this period and would have been added only for insulation and partition walls.

The Seven-Foot Knoll light was manned from 1856, when it went into operation, until 1948 when the Coast Guard automated it. Records of the Lighthouse Service and the Coast Guard on deposit at the National Archives include personnel registers from 1850-1912, correspondence from 1901-1939, and other items. There must have been many thrilling incidents of vessels bearing down on the lighthouse in a dense fog. In 1884, the cold weather created ice floes in the bay that destroyed one of the screw-piles and the lighthouse board had 15 wooden "dolphins" of 10 piles each driven around the site on a radius of 50 feet from the center pile. Ten years later, the ice had carried all of them away, and 700 cubic yards of stone was dumped around the base. These and other

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incidents indicate that the Seven-Foot Knoll Lighthouse was intricately connected to Maryland's maritime life and commerce. This was not a lonely post, situated as it was beside one of the busiest shipping lanes on the East Coast. Further investigation should provide fruitful sources and resources for interpretation of th structure once it is moved and opened to the public.

In 1988, title to the lighthouse was transferred from the U. S. Coast Guard to the city of Baltimore. The structure was moved to the city's Inner Harbor and placed on Pier 5 where it is being restored for use as a museum. If the structure had not been moved, it would have been demolished for the construction of a new light structure. The Seven-Foot Knoll Lighthouse has integrity of its historic character. Although no longer on its original site surrounded by water, it does stand beside water which is easily seen from windows of the house and light tower. Screwpile lighthouses generally are not structurally sound enough to survive the harsh winters of the Chesapeake. Of the four remaining, only one, Thomas Point Shoal Lighthouse, remains on its original site. The others, Drum Point, Seven-Foot Knoll, and Hooper Strait, have been moved to land over time for preservation purposes. Only Seven-Foot Knoll Lighthouse is not listed in the National Register.